T E C H N I C A L M E M O R A N D U M

Utah Coal Regulatory Program

October 11, 2005

TO: Internal File

THRU: Wayne Western, Team Lead

FROM: Priscilla Burton, Reclamation Soil Scientist

RE: Phase I Bond Release for Gravel Canyon, Castle Gate Coal Company, Willow Creek Mine, C/007/0038, Task #2243

SUMMARY:

During operations, the Gravel Canyon topsoil storage site held 107,639 CY of soil (Table 4.2-1). During reclamation, 65,000 yd^3 of topsoil were removed and used to cover mine waste in Schoolhouse Canyon (App. 3.6D, Sec. 3.6-4AB). The Gravel Canyon site was then graded. Composite soil samples of the final graded surface were determined to be suitable for use as substitute topsoil (MRP, App. 3.4 M). Reclamation was completed in the fall of 2004.

Reclamation As-Builts for the Gravel Canyon site are included in the Phase I Bond Release application package received May 5, 2005. The location of the reclaimed site is illustrated in Figure 1 of the application.

TECHNICAL ANALYSIS:

RECLAMATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

Redistribution

The Permittee met the minimum topsoil and subsoil requirements for Phase I bond release. Post mining topography is shown on Exhibit 3.6-5AB. MRP Table 3.6-6, Option B, describes the mass balance summary for reclamation. Approximately 65,000 yd^3 of material were moved during regrading (App. 3.6D Sec. 3.6-4AB). Composite soil samples of the final graded surface were determined to be suitable for use as substitute topsoil (MRP, App. 3.4M).

The Division staff visited the site on September 8, 2004.

The rip rap in the ephemeral channel was filled in with soil and seeded and mulched as described in the Earthfax Engineering reclamation filter design (MRP, Sec. 3.6, App. 3.6B).

Findings:

The information provided meets the minimum Topsoil and Subsoil requirements for Phase I bond release.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

Analysis:

The Permittee met the minimum stabilization of surface areas requirements for Phase I bond release. Two T /ac. of hay was scattered on the regraded surface. The hay was incorporated with gouging. Seed was broadcast over the site (MRP, Table 5.3-2b, Sec 5.3). Following the seeding, the site received an additional 1 to 1.5 tons per acre of straw much applied with mechanical blowers and then was sprayed with a hydromulch and tackifier at a rate

of 500 lbs per acre (App 3.6 Sec 3.6-4(1)AB). The rip-rapped channel bottom was covered with soil and seeded and mulched as well.

After seeding and mulching, App. 3.6-C demonstrates, the amount of sediment estimated to leave the site drops to .14 Tons/acre/year. The field visit on September 8, 2005 confirmed that the Permittee has applied best management practices to control erosion and prevent sediments from leaving the site.

Findings:

The information provided in the bond release application meets the bond release regulations.

RECOMMENDATIONS:

The 5.75-acre site is recommended for Phase I bond release.

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